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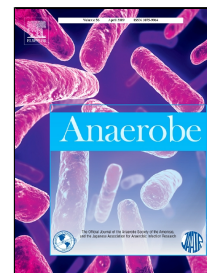
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Honoring Don Whitley, pioneer of innovative scientific instruments for Anaerobic Microbiology (1929-2019)



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Honoring Don Whitley, pioneer of innovative scientific instruments for Anaerobic Microbiology (1929-2019)



Don Whitley Scientific Limited announced the sad news of the death of its founder and chairman, Don Whitley on February 28, 2019. We mourn the loss of this great scientific entrepreneur who was born in London in June 1929. With his family's relocation to Leeds in 1940, Don attended Leeds's prestigious Morley Grammar School where he envisioned a career as a medical doctor. Family's opposition led him to medical technology, working for a decade at Leeds Maternity Hospital and Killingbeck Hospital before moving to industry.

He joined Oxoid Ltd in 1956, and by the following year the company replaced its pharmaceuticals by 'Oxoid Culture Media'. With World War II looming and biological warfare a reality, the UK's Emergency Pathology Service was established to undertake bacteriological investigations. This gave way to Public Health Laboratory Service (PHLS, later PHE). When I joined PHE in 1997, Don vividly recounted the early interactions between Oxoid and PHE. He witnessed first-hand the transformation of microbiological sciences into a thriving industry and armed with a robust foundation in practical microbiology and engineering skills, explored a niche to automate many laboratory procedures through innovation. With his wife Pam, they founded Don Whitley Scientific Ltd (DWS) in 1976 in the basement of their home in Shipley, West Yorkshire and Don began attending and exhibiting products at scientific meetings, the most prominent being their Anaerobic Cabinets. He successfully spearheaded product development for many years, eventually becoming the company's chairman in 1992; paving the way for his son, Paul Walton. Today, DWS employs 89 staff of whom his two sons, three grandchildren and a great-grandson currently work in the company he founded 43 years ago.

In the mid-1970s the study of anaerobes re-surfaced more widely, driven by new technologies and the vision, resourcefulness, inspiration and innovativeness of pioneers such as Don Whitley. I first met Don at a Society for General Microbiology's meeting in 1974, while still a student at the Department of Biochemistry, The Royal London Hospital Medical College where the 'McIntosh and Fildes Anaerobic Jar' was developed [1]. I was working initially on thermophilic anaerobes and having switched to human anaerobes soon realised that while work on methanogens, sulphate reducers, nitrogen fixers, rumen bacteria etc were well advanced, studies in man severely lagged behind. I recall venting my frustration to Don and the patience, curiosity and intensity with which he listened to a mere PhD student. There was considerable debate surrounding the characteristic black pigment produced by '*Bacteroides melaninogenicus*' and I had just presented a paper that refuted its unanimity as melanin to porphyrins and reported its culture using a 'McIntosh and Fildes Anaerobic Jar'. Later that evening we shared a drink and he offered his novel Anaerobic Jar which was just launched.

Recognising the value of communication, we created an 'anaerobe interest group' with a few individuals and initially held meetings at The Royal London Hospital and Queen Mary College from 1973. In 1975, this was formalised into an "Anaerobic Discussion Group" and meetings were held in various UK venues with Don as a frequent contributor. In 1989, the group was formalised into the 'Society for Anaerobic Microbiology' (SAM) which subsequently provided the impetus for other societies such as the 'Anaerobe Society of the Americas' [2]. Don attended ADG's first meeting at Churchill College, Cambridge in 1978 and nearly all successive biennial conferences over the years. Proceedings of the first meeting were published in Research and Clinical Forums in 1979 [e.g. 3] but subsequent meetings were

published as a book by Wiley [4]. Subsequently, discussions took place with Wiley, ADG and Dr. S. Finegold to publish papers in a new '*Journal of Anaerobic Microbiology*' which Don would help promote. This later became the journal '*Anaerobe*' and is thus a fitting place for this tribute to him.

The week Monday 31st January - Friday 4th February 2011 was a watershed in Anaerobic Microbiology with successive meetings held at PHE, London, all of which were enthusiastically attended by Don. It began with a two-day meeting of the ICSB's, Subcommittee on Gram-negative Anaerobic Rods followed by a joint FEMS - SAM meeting that ended at mid-day on Friday 4th February. The afternoon was reserved for a more relaxed meeting titled "*Milestones in Anaerobic Microbiology*", a reflection of poignant moments by speakers. Saheer Gharbia chaired the meeting that was opened by me, followed by the late Sydney Finegold, Brian Duerden, Jeremy Hardie, Elizabeth Nagy, Yoshimi Benno, Bo Draser, Peter Borriello, John Robinson and ended with Don. We waited eagerly to hear about Don's eureka moments when many of his ideas led to patents and applications. Don intuitively recognised an exhausted audience and went to the podium tentatively, but then drove them into hysterics with a torrent of smutty jokes. Participants walked out beaming at the end and headed home with tears of laughter. It was a moment of sheer ecstasy and highlighted Don's immense talent as a stand-up comic also.

At conferences Don could instantly become suffused in a novel scientific presentation but soon after was the focal point of a gathering that mirrored his jovial spirit, warmth, humility and cordiality - welcoming new friends over unlimited glasses of beer, wine and drinks. This was where students usually met him and often without even asking, he offered help with their projects or advice with their careers. Many of my own PhD students received financial support following such meetings. In particular, he funded Paul Lawson's entire PhD from 1987 at a time when there was much exploratory methodology that was unlikely to yield company returns. He helped us design and build our own electrophoresis equipment during our search for novel restriction enzymes and 16S rRNA sequencing of fusobacteria and other anaerobes. To have given such support at a time when we were unsure of where these techniques were leading us is the hallmark of his scientific curiosity and generosity. I recollect meeting Don at the Cumberland Hotel, London a year later and discussed our views on commercial designs for DNA profiling and sequencing. However, he showed more interest in the data rather than the commercial potential. His interaction with students expanded through collaboration with Bradford University and in 2009 he was granted an honorary Doctor of Science (see photo).

The science of Anaerobic Microbiology has lost one of its modern founding fathers, but many students and scientists around the globe are indebted for the immense legacy that Don imparted to them and science. It is fitting that SAM will mark his and his friend Sydney Finegold's enormous contribution to the field of Anaerobic Microbiology at their forthcoming meeting: *Anaerobe 2019. "Changing perceptions of anaerobic bacteria; from pathogen to the normal microbiota and back"* at Cardiff, June 13-14, 2019.

For Saheer Gharbia and myself, he not only warmly reached out to us over the years but supported our daughter, Laila Shah's 6th Form Science Symposium on 2nd July 2016 titled "*Science at the Cutting Edge, Implications for Daily Life*" to raise funds to build a science laboratory at the "Flying Angels School" in Zambia. Students there are now able to take advanced level science subjects to pursue scientific careers; you can just see Don smiling as these very deprived, but hard-working youths, leave school and transform their lives on new fruitful career pathways.

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